

THE DIRTY ENERGY TRUTH BEHIND THE GLOBAL CLEAN ENERGY ACTION FORUM

INTRODUCTION

“You can’t fossil fuel your way out of a fossil fuel created crisis,” tweeted Dr. Elizabeth Sawin.ⁱ The federal government is attempting to do just that by investing billions in technologies they are presenting as climate solutions, but are, in fact, part of the fossil fuel system that created the crisis.

A 2019 report found that the fossil fuel industry had spent more than \$1 billion in the three years after the Paris climate talks selling climate solutions to politicians, policy makers, and the public, all so it could continue doing business as usual.ⁱⁱ False climate solutions fall into three categories – technologies intended to offset the damage continued fossil fuel use causes (Carbon Capture and Storage /Carbon Capture, Utilization, and Storage, and Direct Air Capture), technologies intended to lessen the climate impacts of continued fossil fuel use (HyBlend – adding hydrogen to methane pipelines to cut emissions), and technologies intended to use fossil fuels to create ‘clean’ energy (Blue Hydrogen).



In Pennsylvania and the greater Appalachian region, companies like Shell, Equinor, and U.S. Steelⁱⁱⁱ and a legion of supporters are eager to get in the game by vying to make Appalachia one of four ‘hydrogen hubs’ the Infrastructure Investment and Jobs Act (IIJA) provides \$8 billion to create. Proposed hydrogen hubs are intended to “bring together clean hydrogen producers and end users to facilitate the demonstration, development, and commercialization of the nation’s ‘clean hydrogen economy.’”^{iv} The IIJA requires that two of the hydrogen hubs it funds must be located in the regions with “the greatest natural gas resources.”^v If Appalachia gets a hub, the hydrogen it produces will be blue and that means no end to drilling and fracking is in sight.

*“Fossil fuels are here to stay.
They are not going to be a
transition fuel.”*

Lou Hrkman

*Department of Energy Office of
Fossil Energy and Carbon
Management*

2020

*Currently, Senior Policy Advisor,
U.S. House Select Committee on
the Climate Crisis*

Hydrogen can be produced from a variety of feedstocks and by various processes that are differentiated these days by assigning colors to describe them. The vast majority of the hydrogen produced today is gray hydrogen made from natural gas in a process called steam methane reforming that emits a lot of carbon dioxide. The fossil fuel industry and its supporters claim gray hydrogen can be turned blue by using Carbon Capture and Storage (CCS) to reduce emissions by capturing CO₂, whisking it away in a pipeline, and sequestering it somewhere.^{vi} Otherwise, blue hydrogen is no different from the gray variety that accounts for three quarters of the hydrogen produced today.^{vii}

The U.S. Department of Energy (DOE) is tasked with determining where the hydrogen hubs will be located. This month, DOE Secretary Jennifer Granholm will host energy ministers from more than 30 countries at the Global Clean Energy Action Forum (GCEAF) in Pittsburgh with the help of a 26-member host committee composed of federal, state, regional, and local government, business, academic, labor, and non-profit representatives.^{viii} Among

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the hosts are many who have been pushing hard to bring a blue hydrogen hub and other false solutions to the region.

The event's title is nothing more than a name given this year to an annual joint meeting of two DOE creations - the Clean Energy Ministerial (CEM)^{ix} and Mission Innovation (MI).^x Decisions regarding who gets a hydrogen hub will not be made or announced at GCEAF. If anything, DOE may take advantage of the event to announce the Funding Opportunity Announcement (FOA) that will kick off the application process that is expected to lead to the naming of hub locations next May.^{xi}

GLOBAL CLEAN ENERGY ACTION FORUM HOST COMMITTEE

Jennifer Granholm
Secretary, U.S. Department of Energy

Host Committee Co-Chairs
Rich Fitzgerald
Allegheny County Executive

Ed Gainey
Mayor, City of Pittsburgh

Farnam Jahanian
President, Carnegie Mellon University

Stefani Pashman
Chief Executive Officer, Allegheny Conference on Community Development

Host Committee Members
Tom Wolf
Governor, Commonwealth of Pennsylvania

Brian Anderson
Director, National Energy Technology Laboratory (NETL)

Jerad Bachar
President & CEO, Visit Pittsburgh

Rebekah Byers Kcehowski
Partner-in-Charge, Jones Day Pittsburgh

Christina Cassotis
CEO, Allegheny County Airport Authority

Jenna Cramer
Executive Director, Green Building Alliance

William S. Demchak
Chairman, President, & Chief Executive Officer, The PNC Financial Services Group

Ilana Diamond
Managing Partner, 412 Venture Fund

Patrick Gallagher
Chancellor, University of Pittsburgh

Jennifer Giovannitti
President, Claude Worthington Benedum Foundation

Diane M. Kappas
Vice President, Global Sustainability, PPG

Darrin Kelly
President, Allegheny/Fayette Central Labor Council, AFL-CIO

Joe Mastrangelo
Chief Executive Officer, Eos Energy Enterprises, Inc.

Hilary Mercer
SVP, Pennsylvania Chemicals, Shell

Joylette Portlock
Executive Director, Sustainable Pittsburgh

Joel Reed
Executive Director, Pittsburgh Robotics Network

Sam Reiman
Director and Trustee, Richard King Mellon Foundation

David K. Roger
President, Hillman Foundation

Bryan Salesky
Founder and Chief Executive Officer, ArgoAI

Sabrina Saunders-Mosby
President and CEO, Vibrant Pittsburgh

Kevin Walker
President and Chief Executive Officer, Duquesne Light Holdings

Amanda Woodrum
Co-Director, Project to Reimagine Appalachia

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GCEAF is more likely to be a consequential gathering because of the marketing opportunity it presents to sell false solutions. If selling bad ideas is the goal, it appears that hydrogen hub boosters are working with the right public relations firm for the job. An email obtained from an anonymous source responding to a question about press access to the event comes from a Senior Account Executive at Edelman, a firm that continues to work with

Meet GCEAF'S PR Firm
"I believe deeply in the oil and gas sector."
Richard Edelman,
President and CEO, Edelman
November 2021

major fossil fuel companies and trade associations despite considerable pressure from activists to break ties.^{xii} Shell, one of GCEAF's host committee members, is a longtime client.^{xiii}

Details of GCEAF's program have been slow in coming, but the recently published list of side events covering everything from solar energy to green procurement is also laden with fuzzwords like net zero and low carbon. Several sessions are devoted to false solutions, including the egregious and environmental justice-free *Accelerating CCUS deployment: finance, policy, and innovation in developing countries* (The title in the original version of the side events list was the even worse *Getting the Global South Ready to Embrace CCUS*).^{xiv}

Although almost all of the hosts have some connection to the fossil fuel industry or efforts to bring false solutions to the region, it's useful to look at the hosts in groups – federal, state, and regional/local - to appreciate how much of a presence the fossil fuel industry has at every level of government and will have at a forum that will be more blue than green. Before we discuss the groups advocating for false solutions, we will provide some basic information on the solutions themselves and the issues surrounding them.

FALSE SOLUTIONS

False solutions have some characteristics in common. 1) They're expensive. Last year's Infrastructure Investment and Jobs Act provides nearly \$9.5 billion to fund hydrogen projects, including the hubs, and another \$10 billion for carbon capture, transportation, and storage projects. Proven, scalable renewable solutions like solar, wind, water, and geothermal got a combined \$480 million. 2) They don't exist. Author Naomi Oreskes put it this way in the August issue of *Scientific American*, "Imagine if I said I planned to build a home with materials that had not yet been invented or build a civilization on Mars without first figuring out how to get even one human being there. You'd likely consider me irrational, perhaps delusional. Yet this kind of thinking pervades plans for future decarbonization."^{xv}

Carbon Capture, Utilization, and Storage (CCUS), also known as CCS when no utilization is involved, is probably the best known of the false solutions. Carbon has been captured and utilized to coax the last dregs of oil out of wells, a process called Enhanced Oil Recovery (EOR), for many years. Sequestering all the carbon captured is another story.

Of 12 CCS commercial projects the Global CCS Institute lists as operational,^{xvi} only one is truly a CCS project. The others are CCUS projects that use the carbon for EOR. Archer Daniels Midland Co.'s ethanol plant in Decatur, Illinois is the only one that claims to store all of the carbon it captures. The carbon is "transported to a nearby injection well for dedicated geological storage." Oreskes notes that, "since 2017, [ADM] has been containing carbon at a cost to the American taxpayer of \$281 million (more than half the total project cost); at the same time, overall emissions from the plant have increased. And the total number of people employed in the project? Eleven."^{xvii}

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Last December, the DOE announced the creation of an Office of Clean Energy Demonstrations paid for with \$20 billion provided in IJA.^{xviii} Demonstration projects are like pilot projects, only bigger. Throwing taxpayer dollars at CCS demonstration projects is nothing new. The DOE’s past investments in CCS coal demonstration projects yielded nothing. Of eight CCS coal demonstration projects the agency backed since 2009, seven never materialized and the one that did, Petra Nova, shut down last year.^{xix} In 2020, Congress called for a review of the DOE’s handling of the demonstration program by the U.S. Government Accounting Office (GAO). The review revealed that senior leadership at the agency had instructed staff to keep spending on projects even though they were not reaching key milestones.^{xx}

Table 1: Coal Carbon Capture and Storage Demonstration Project Outcomes, Final Phase, and Department of Energy (DOE) Funding

Project	Project outcome	Final phase entered	DOE funding totals (dollars)
American Electric Power	Withdrawn	Definition	16,880,268
Basin Electric	Withdrawn	None	0
FutureGen 2.0 Power Plant	Terminated	Design	116,666,759
FutureGen 2.0 Pipeline and Storage	Terminated	Design	83,857,100
Hydrogen Energy California	Terminated	Definition	153,428,898
Petra Nova	Completed	Operations	195,132,425
Southern Company Services	Withdrawn	None	0
Summit Texas Clean Energy	Terminated	Definition	117,876,707
Total			683,842,157

Source: GAO analysis of DOE data and documentation. | GAO-22-105111

BLUE HYDROGEN

Even if CCS worked, it would only address CO2 emissions. Blue hydrogen enthusiasts like to downplay the fact its feedstock, a much more powerful greenhouse gas than CO2, leaks a lot. In their 2021 paper, “How Green Is Blue Hydrogen?,” Cornell’s Robert Howarth and Stanford’s Mark Jacobson reported that blue hydrogen’s greenhouse gas footprint is higher (20%) than burning natural gas or coal and much higher (60%) than burning diesel oil because of methane leaks emitted during natural gas production as well as when it’s being used to power the carbon capture process.^{xxi}

Granholm was in New Mexico a week after the paper by Howarth and Jacobson came out and, when asked about their findings, said, “They are absolutely right. Natural gas has to clean up its act on methane leakage and we’re working on that too. Our goal is to get clean hydrogen.”^{xxii} Methane emissions in 2021 were the highest they’ve been since they were first tracked in 1983. The previous record was set in 2020.^{xxiii}

It’s worth noting that hydrogen can also be produced from renewable sources. Like its blue cousin, green hydrogen is expensive and doesn’t exist, but some analysts believe that falling prices for renewables could make it a viable option some day.^{xxiv} Others are more skeptical. David Cebon, a professor of mechanical engineering at the University of Cambridge and Richard Lowes, a senior associate at the Regulatory Assistance Project and research fellow in the University of Exeter’s Energy Policy Group, wrote in their recent op-ed, “While on the face of it, a move from fossil fuel-derived hydrogen to renewably produced hydrogen might appear to be a good thing, the reality is that burning green hydrogen at scale seems even less plausible than burning blue hydrogen.” They explain that the amount of electricity required to make green hydrogen will keep it from becoming competitive with the 300% efficiency of heat pumps or the 100% efficiency of using the electricity directly.^{xxv}

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Perry Babb, a former pastor and entrepreneur who has been talking up a hydrogen project in Clinton County he calls KeyState to Zero, says that “blue hydrogen will build the house that green hydrogen can occupy when it becomes as cost effective”.^{xxvi} Green hydrogen is increasingly appearing to be a ‘bait and never switch’ ploy, at best. Plug Power announced its intent to build a green hydrogen plant in Lancaster County in 2021. They nixed their plans earlier this summer, citing information from the U.S. Fish and Wildlife Service about endangered species at the proposed location. The agency has no record of either a conversation with Plug Power or any federally listed endangered species in the area of the proposed facility.^{xxvii}

DISTRACTION

The three episodes of Frontline’s *The Power of Big Oil* that aired this spring were titled, Denial, Debate, and Delay, respectively. CCS as a false solution was discussed briefly near the end of the series. Had the filmmakers decided to make a fourth installment, it could have been named Distraction. Multi-billion dollar investments, demonstration projects, hydrogen hubs – they’re all distractions from the urgent climate action we need.

Meet GCEAF Host, Jones Day
“Jones Day represented a Marcellus Shale operator in obtaining resolution of misdemeanor environmental criminal charges following a grand jury investigation.”
Cases & Deals, Jones Day
August 2020

When lobbyist Chris Jackson stepped down as the head of the UK Hydrogen and Fuel Cell Association, he said that blue hydrogen was “at best an expensive distraction, and at worst a lock-in for continued fossil fuel use.”^{xxviii} Cebon and Lowes predict hydrogen energy will never get beyond some limited trials. “A more likely scenario,” they say, “is that more time is wasted considering the idea of burning hydrogen for heat and more is spent funding companies to research it because politicians do not want to make the required difficult decisions. The lobbying will continue and while governments are slowly beginning to understand the limits and costs of hydrogen, lobbying is moving towards local authority policymakers where future decisions will need to be made.... Amidst the hype, citizens are becoming increasingly confused about future heating technologies. All of this leads to climate delay and continued exposure to fossil fuels.”^{xxix}

THE GLOBAL CLEAN ENERGY ACTION FORUM’S DIRTY ENERGY HOSTS (in bold)

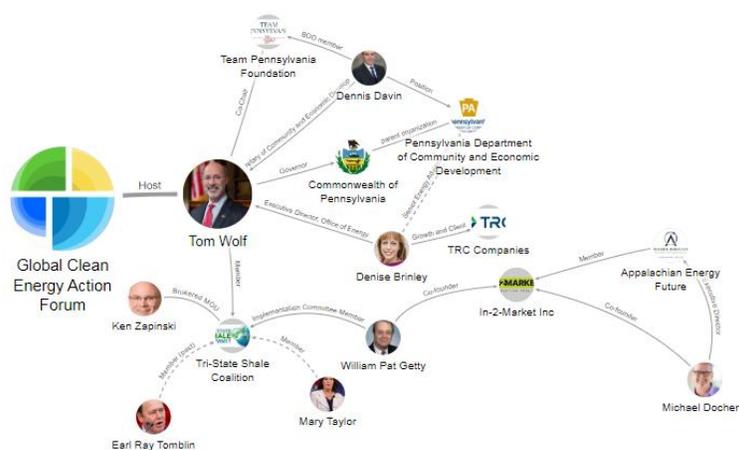
As we noted earlier, nearly all of GCEAF’s 27 hosts have at least some tie to the fossil fuel industry or the push for a hydrogen hub and other false solutions. Some of the connections are obvious, as is the case with **Shell**, a company that, like Exxon, has been well aware of climate change for decades. An 87-page internal report from 1988 entitled *The Greenhouse Effect* is the first of at least a dozen reports and presentations on climate change the company produced over the course of a decade. The 1988 report contains this prediction, “However, by the time the global warming becomes detectable it could be too late to take effective countermeasures to reduce the effects or even to stabilize the situation.”^{xxx}

In spite of what **Shell** knew, the company was a member of the Global Climate Coalition, according to several membership lists obtained by the Climate Investigations Center.^{xxxi} The Global Climate Coalition was started by the Edison Electric Institute and the National Association of Manufacturers to stall action on climate change.

A less well-known connection among the GCEAF hosts may be that **Duquesne Light** was also a member of the Global Climate Coalition. The company appears on four membership lists, twice as a board level member.^{xxxii}

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The federal and state hosts' connections are best discussed, however, by way of a timeline of key events, documents, and organizations.



State Host and Key Connections

A public-private partnership called the Tri-State Shale Coalition formed to provide regional support to the natural gas industry in the Appalachian region.^{xxxiii}

The **Allegheny Conference on Community and Economic Development (ACCD)** took credit in its annual report for leading the partnership that organized the summit and added, "Together, we will market the Appalachian Basin as the new global petrochemical center and hub for made-in-America manufacturing."^{xxxiv}

OCTOBER 2015
TRI-STATE SHALE
SUMMIT

The consulting firm Econsult lists Ken Zapinski as a Senior Advisor.^{xxxv} His biography credits him with brokering the deal that created the Coalition when he was Senior Vice President for Energy and Infrastructure for the ACCD. He also helped lead the ACCD's Energy Alliance of Greater Pittsburgh. "Mr. Zapinski serves on the **University of Pittsburgh's** Board of Visitors for the Graduate School for Public and International Affairs, and the Institute of Politics' Infrastructure Policy Committee. He is also on the Policy Committee of the **Green Building Alliance,**" his biography continues. In addition to his role for Econsult, Zapinski currently serves as the Director of Research and Public Policy for a business-labor alliance called Pittsburgh Works Together.

Econsult has produced or contributed to reports promoting the Mariner East Pipeline^{xxxvi}, the PennEast Pipeline^{xxxvii}, and the proposed Energy Hub in Philadelphia^{xxxviii}.

A Memorandum of Understanding (MOU) signed by **Governor Tom Wolf**, Ohio Lt. Governor Mary Taylor, and West Virginia Governor Earl Ray Tomblin at the summit formalized the

FOUNDING MEMBERS (GCEAF hosts in bold)

Commonwealth of Pennsylvania

State of Ohio

State of West Virginia

Claude Worthington Benedum Foundation

Team NEO (Ohio economic dev.)

VisionShared (WV economic dev.)

Allegheny Conference on Community and Economic Development (ACCD)

Pittsburgh Regional Alliance in Pennsylvania (ACCD affiliate)

OTHER MEMBERS

West Virginia Development Office

Jobs Ohio

Team Pennsylvania Foundation

Pennsylvania Development Agency

West Virginia University

Cleveland State University

Kent State University

Ohio State University

Pennsylvania State

partnership. It was renewed in 2018 at that year’s Tri-State Shale Summit hosted by the **National Energy Technology Laboratory (NETL)**,^{xxxix} but has not been renewed since.”^{xi}

The Coalition is credited with having brought together an existing group called the Tri-State Energy and Advanced Manufacturing Consortium (TEAM) focused on workforce development and a new non-profit network that emerged out of the Coalition’s partnerships called In-2-Market. William ‘Pat’ Getty, retired **Benedum** president, was on the Coalition’s Implementation Committee from the beginning and is one of the co-founders of In-2-Market.^{xii}

In-2-Market’s important role in the push for a hydrogen hub will be discussed later in this brief. In-2-Market’s board members include Pat Getty, co-founder Thomas Esselman, Morgan O’Brien, former CEO of Peoples Gas and **Duquesne Light**, Richard DiClaudio, CEO of Bedford Funds and of the Energy Innovation Center Institute, who was EVP and COO of **Hillman Energy**. Its Strategic Advisory Council’s members include Pat Getty, co-founder Michael Docherty, Dianne Anderson of Case Western, formerly with BP, Chester Babst of Babst Calland, Rebecca Bagley of Cannex, formerly of the **University of Pittsburgh**, Paul Boulier of Team NEO, Joe Eddy of Enhanced Technologies LLC, E. Gordon Gee, President of WVU, Jerry McCleary, former CEO of Covestro, Rebecca McPhail, President of WV Manufacturers Association, Petra Mitchell, President & CEO of Catalyst, Morgan O’Brien, and Scott Rotruck of Orion Strategies, formerly of Chesapeake Energy.^{xlii}

University
University of Pittsburgh
 West Virginia Northern
 Community College
 Pierpont Community
 and Technical College
 Community College of
 Beaver County
 Eastern Gateway
 Community College.^{xliii}

SIDE BAR: THE BRAVO GROUP

Jeff Logan attended the first summit. He wrote about it on the blog of the organization over which he presides, the Pennsylvania Chemical Industry Council (PCIC), saying, “We have the natural gas and we should be able to enjoy all the benefits of it like the Gulf Coast does.” He explained, “The Appalachian Basin could very well be the next global petrochemical hub, given the fact we have 17,477 petrochemical and downstream manufacturers – all within 400 miles of each other.”¹ (The Gulf Coast is otherwise known as Cancer Alley.)

Although he identifies as the organization’s president, it may be more accurate to call him the organization’s manager. He is the Environmental and Regulatory Practice Lead for the Bravo Group, a public relations firm with a lobbying arm. Bravo’s clients include Sunoco, Sunoco Logistics, Southwestern Energy (SWN), Cabot Oil & Gas, Philadelphia Energy Solutions, Dow Chemical, the Pennsylvania Steel Alliance,¹ the Williams Company,¹ and NRG.¹ According to Bravo’s site, the firm manages the PCIC.¹

*Logan presented “Pipelines – An Exemplary Vision” on behalf of the Bravo Group at **Wolf’s** Pipeline Infrastructure Task Force a month before attending the summit.¹ He had joined the firm for a few months earlier, fresh from his role as Executive Deputy Secretary of the Pennsylvania Department of Environmental Protection.¹*

APRIL 2019
PENNSYLVANIA
ENERGY HORIZONS

In April 2019, Team Pennsylvania, a public/private partnership started by Governor Tom Ridge and led by each governor since, released *Pennsylvania Energy Horizons*,^{xiv} a document resulting from a series of meetings led by **Shell**, on Team Pennsylvania's behalf, over a 12-month period from 2017 to 2018. The list of participants has never been made public. They were asked to consider two different scenarios for the state's energy future. The *Post-Gazette's* Anya Litvak was the only reporter to write about the project.^{xlv} She wrote, "It was fair to wonder if a group so diverse that the phrase 'climate change' was ruled too much of a 'trigger' in their early sessions could reach any sort of consensus."

The process led to the creation of **Governor Wolf's** Office of Energy and the installation of the Department of Community and Economic Development's (DCED) Denise Brinley as its Executive Director. The new office was intended to bring cohesion to the state's position on energy. No formal announcement of the Office of Energy's creation was ever made nor was its mission statement made public. The office has no webpage or contact information posted online. No announcement was made of either Denise Brinley's appointment or her departure a little more than two years later. She left the job last year to return to TRC Company, an industry player she has worked for over the years between stints with the Department of Environmental Protection and DCED. TRC is one of the members of the CCUS/Hydrogen Workgroup announced by Team Pennsylvania this July.

Team Pennsylvania

Shell

SIDE BAR: Shell

Shell has had a Scenario team for decades to guide their business decisions, including the ones related to climate change. In 1998, the two scenarios they contemplated were The New Game and People Power. Here are just a few excerpts from those sessions beginning with one that predicted the severe storms we're now experiencing with greater frequency.

"Following the storms, a coalition of environmental NGOs brings a class-action suit against the US government and fossil-fuel companies on the grounds of neglecting what scientists (including their own) have been saying for years: that something must be done. A social reaction to the use of fossil fuels grows, and individuals become 'vigilante environmentalists' in the same way, a generation earlier, they had become fiercely anti-tobacco. Direct-action campaigns against companies escalate. Young consumers, especially, demand action ..."

"Governments also learn how to achieve environmental objectives through establishing new markets. In The New Game, tradable pollution rights expand beyond sulphur to carbon and eventually to a wide range of by-products (NOx particulates, waste mud) from the energy systems..."

"Competition is increasingly between natural gas and these new energy forms. On the horizon is rapid development of hydrogen-based fuel-cell energy. By the end of The New Game, the transition to non-carbon energy is well underway..."

JUNE 2020
 CARBON CAPTURE:
 A PATHWAY FOR
 MEETING
 PENNSYLVANIA'S
 ENVIRONMENTAL
 AND ECONOMIC
 GOALS

In June 2020, the Center for Climate and Energy Solutions (C2ES) hosted a webinar called *Carbon Capture: A Pathway for Meeting Pennsylvania's Environmental and Economic Goals*

Lou Hrkman, of the **DOE** Office of Fossil Energy and Carbon Management,^{xlvi} opened his remarks by saying, "Fossil fuels are here to stay. They are not going to be a transition fuel."^{xlvii}

He left the DOE last year to become Senior Policy Advisor to the House Select Committee on the Climate Crisis.^{xlviii}

SPEAKERS
 Lou Hrkman, Deputy Assistant Secretary for Fossil Energy, **DOE**

 Rep. Shariff Street

 Office of Energy, Denise Brinley

 Past-DEP Chief John Quigley

 Davitt Woodwell, PEC

 Martin Williams, International Brotherhood of Boilermakers

 MODERATORS
 Edward Rubin, **CMU**
 Anna Siefken, **CMU**

JULY 2020
 THE APPALACHIAN
 ENERGY AND
 PETROCHEMICAL
 RENAISSANCE

The **DOE** announced that Appalachia's economic future looked rosy and had natural gas, coal, and natural gas liquids production to thank for it.

And jobs! The American Chemistry Council estimated that the petrochemical business in the region alone could account for 100,000. The report noted that the first cracker plant was about to open and a second was on the way.

Meanwhile, the report concluded that, in addition to the export market, coal had opportunities in the "coal-to-product" (a.k.a. making stuff from coal) and rare earth minerals markets.

"The safe development of clean-burning American natural gas has been a Godsend, providing the region's manufacturers with the competitive advantage to invest and create good-paying jobs, especially as it relates to putting tens-of-thousands of skilled building trades members to work. By leveraging the region's natural gas abundance, we're responsibly moving our economy forward, delivering meaningful consumer savings, and making our country more secure, all while protecting and improving the environment we all share," gushed Marcellus Shale Coalition, President David Spigelmyer.^{xlix}

Tom Wolf joined six other states – Kansas, Louisiana, Maryland, Montana, Oklahoma and Wyoming – in signing a Memorandum of Understanding¹ committing to developing a Regional CO2

DOE

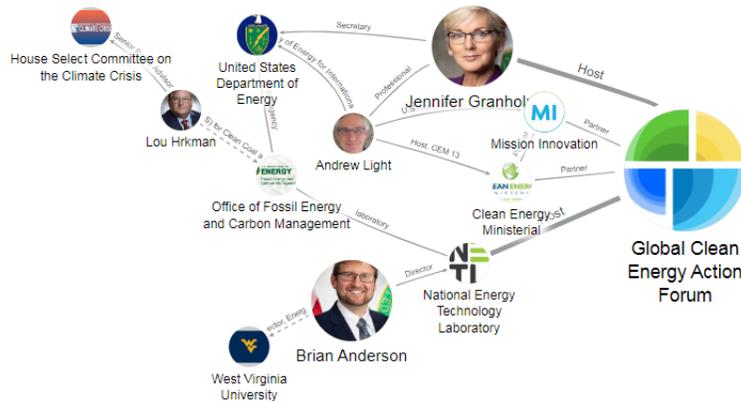
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OCTOBER 2020
REGIONAL CO2
TRANSPORT PLAN
MOU

Transport Plan^{li}, an initiative led by the Great Plains Institute^{lii}. The MOU follows from a two-year research project that began in 2018 to assess carbon management “opportunities” in the West and Midwest.^{liii}

After the MOU was in place, the signatory states shared a webinar series to try to get buy-in from stakeholders. Topics addressed included the 45Q tax credit, class VI injection wells (the class of wells specific to CO2 disposal), and pore space (the CO2 sequestration equivalent of forced pooling - in this case, ownership of the empty spaces in the subsurface).

As part of the announcement, Department of Conservation and Natural Resources Secretary Cindy Dunn says her agency has been looking into Carbon Capture Utilization and Storage (CCUS) for nearly two decades.^{liv} Among the things they studied was using captured carbon for Enhanced Oil Recovery in two of the counties hit hardest by fracking, Washington and Greene.^{lv} DCNR is part of the Appalachian Oil and Natural Gas Research Consortium by way its Pennsylvania Geological Survey led by Kristin Carter.



DOE

JULY 2021
HYDROGEN SHOT

Federal Hosts and Key Connections

DOE Secretary Jennifer Granholm launched an initiative called Energy Earthshots with one specific to hydrogen. The goal of the Hydrogen Shot is to bring down the cost of clean (a.k.a. green) hydrogen to \$1 per 1kg in 1 decade.^{lvi}

Andrew Light is Granholm’s Assistant Secretary for International Affairs, Co-Chair of Clean Energy Ministerial (CEM) 13, and Vice Chair of Mission Innovation (MI)’s Steering Committee. He represents the United States as a co-lead of MI’s Clean Hydrogen Mission.^{lvii}

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	<p>During his confirmation hearing one month earlier, Light told the Senate Committee on Energy and Natural Resources, “While the Department of Energy has produced some of the most important clean energy deployment and development initiatives in the world, like the Clean Energy Ministerial and Mission Innovation, we also need to forge targeted partnerships with countries that share our principles on respect for workers, market values, environmental protection, and scientific integrity. We have to compete to become the biggest innovator and manufacturer in hydrogen, carbon capture, and other technologies that will create more jobs while meeting the climate challenge.”^{lviii}</p>	
<p>OCTOBER 2021 REGIONAL CO2 TRANSPORT PLAN RELEASE</p>	<p>The Wolf administration unveiled the finished plan that discusses “potential policies for states to consider to facilitate carbon dioxide (CO₂) transport and storage project deployment.”^{lix}</p> <p>The plan offers recommendations to the federal government like use of existing laws like National Environmental Policy Act (NEPA) to avoid having to enact new laws for storage of CO₂ on public lands and pore space ownership.</p> <p>The plan also points to rules the states can establish, like “declaring CO₂ storage is in the public interest” or “qualifying all anthropogenic CO₂ pipeline and other transport infrastructure as pollution control devices.”</p> <p>“Kristin Carter, assistant state geologist for the State of Pennsylvania, emphasized the need for the infrastructure plan, stating, ‘We know that adoption of low-carbon and renewable energy resources cannot alone decarbonize our economy by midcentury; integrated infrastructure that connects carbon sources with sinks is necessary to decarbonize the country’s industrial and power sectors.’”^{lx}</p>	<p>Commonwealth of Pennsylvania</p> <p>State of Kansas</p> <p>State of Louisiana</p> <p>State of Maryland</p> <p>State of Oklahoma</p> <p>State of Wyoming</p> <p>Great Plains Institute</p>
<p>OCTOBER 2021 ROOSEVELT PROJECT</p>	<p>Former DOE Secretary Ernest Moniz visited CMU to discuss a case study of southwestern Pennsylvania he had worked on as part of a larger effort he called the Roosevelt Project named for Teddy, Eleanor, and Franklin.^{lxi} In 2018, then-DOE Secretary Moniz launched the project to guide regions of the country through the transition to a ‘low-carbon’ economy.</p> <p>Co-lead Valerie Karplus started working on the project in 2019 when she was teaching at the MIT Sloan School of Management, but joined CMU in 2020 where she continued to work on the study.</p> <p>Moniz and Karplus collaborated with researchers from Harvard University and Boise State University^{lxii} on the paper that “leans</p>	<p>Ernest Moniz, past-DOE</p> <p>Valerie Karplus, CMU</p>

hard on the pursuit of local hydrogen and carbon capture and storage hub, an idea that has caught fire in recent months, with many in the oil and gas industry seeing it as a way to stay relevant for decades to come,” as the *Pittsburgh Post-Gazette’s* Anya Litvak put it.^{lxiii}

As the report itself says, “In the medium and long term, development of carbon capture, utilization, and storage (CCUS) and hydrogen will allow the region to continue the use of existing fossil fuels in ways consistent with the rising demand for low greenhouse gas production. CCUS and hydrogen will require construction of pipelines and storage infrastructure and retrofitting of existing facilities. The Commonwealth of Pennsylvania will need to develop CCUS and hydrogen plans now to take advantage of these opportunities.”



“Clean hydrogen is the future,” an effervescent **Granholm** declares at the end of an explainer video^{lxiv} she made last year to commemorate

Jennifer Granholm, DOE

OCTOBER 2021
NATIONAL
HYDROGEN DAY

National Hydrogen Day, a creation of the Fuel Cell and Hydrogen Energy Association. California Congressman Jim Costa has introduced a resolution to have October 8th officially designated as National Hydrogen Day.^{lxv} It is just one expression of congressional support for hydrogen. (In Pennsylvania, Senators Mensch, Collett, Browne, Costa, Hughes, Comitta, and Fontana introduced a resolution last October retroactively designating only October 8, 2021 as National Hydrogen and Fuel Cell Day. The resolution has never made it out of committee. The significance of the resolution may be that it had bipartisan support. Two of the seven co-sponsors were Republican; the rest were Democratic.^{lxvi})

In May of 2022, Wolf announced his plans to aggressively push for a hydrogen hub in Pennsylvania^{lxvii} and announced that he had signed a declaration also signed by “24 industry, labor, and non-profit stakeholders” called *Charting Pennsylvania’s Path for Industrial Sector Decarbonization: Deploying Carbon Capture, Utilization, and Storage (CCUS) & Clean Hydrogen Technologies*.^{lxviii}

“Over the past year, the commonwealth has partnered with the Team Pennsylvania Foundation to convene energy and industrial

SIGNATORIES
AirProducts and
Chemicals, Inc.

**Allegheny Conference
on Community
Development**

**Allegheny County
Executive**

*MAY 2022
CHARTING
PENNSYLVANIA'S
PATH FOR
INDUSTRIAL
SECTOR
DECARBONIZATION:
DEPLOYING
CARBON CAPTURE,
UTILIZATION, AND
STORAGE (CCUS) &
CLEAN HYDROGEN
TECHNOLOGIES*

stakeholders across a variety of sectors to build consensus and develop the public private partnerships needed to address the challenge of industrial sector decarbonization with a focus on the following:

- Identifying priority opportunities and requirements for deploying CCUS and hydrogen with an emphasis on preparing Pennsylvania to compete for energy-related funding in the Bipartisan Infrastructure Bill.
- Taking action to ensure that we capitalize on our potential to unleash innovative, technological, and market-driven solutions to reducing emissions while creating jobs in the industrial sector.
- Working collaboratively with business and industry to ensure that we deliver practical recommendations and solutions.
- Building this initiative with a broad set of stakeholders to ensure that the work is nonpartisan and sustainable.”

The following month, Pennsylvania’s Congressional delegation issued a statement of support.

The statement reads, in part, “Key to this transition will be the development of a range of innovative and flexible clean energy pathways, including CCUS, clean hydrogen production, and the creation of a diverse market for clean hydrogen end-use.”

U.S. Senator Bob Casey and Representatives Dwight Evans, Mary Gay Scanlon, Chrissy Houlahan, Susan Wild, Daniel Meuser, Lloyd Smucker, Fred Keller, Guy Reschenthaler, Glenn Thompson, Conor Lamb, Mike Doyle, Brian Fitzpatrick, Madeleine Dean, Matt Cartwright, and John Joyce make up the delegation.^{lxix}

**Allegheny-Fayette
Central Labor Council**

- Battelle
- Boilermakers Local
- Clean Air Task Force

**Commonwealth of
Pennsylvania**

- CS Energy
- Epcot Crenshaw Corporation
- EQT Corporation
- Great Plains Institute
- IBEW Local
- IN-2-Market, Inc.
- KeyState to Zero, KeyState Energy
- Mitsubishi Power Americas
- PA Chamber of Business and Industry
- PECO Energy Company

**Pennsylvania
Environmental Council**

- Piasecki Aircraft Corporation
- Pittsburgh Works Together

Shell

- Team Pennsylvania Foundation

**The University of
Pittsburgh**

- TRC Companies, Inc.
- United States Steel Corporation.^{lxx}

THE DIRTY ENERGY TRUTH BEHIND THE GLOBAL CLEAN ENERGY ACTION FORUM

JULY 2022
 PENNSYLVANIA
 ENERGY
 HORIZONS CROSS-
 SECTOR
 COLLABORATIVE

Team Pennsylvania, led by Governor Wolf, announced, in July, the formation of the Pennsylvania Energy Horizons Cross-Sector Collaborative^{lxxi} that is comprised of a Carbon Capture Utilization and Storage (CCUS)/Hydrogen Stakeholder Group*.^{lxxii}

Andrew Place is the only individual listed as a member. He has taken many spins in the revolving door between government and industry. He began his career as a Research Fellow at CMU and then spent a year and a half as a Deputy Secretary of the Department of Environmental Protection before spending five years at EQT. He left EQT to serve on the Public Utility Commission for close to five years. He then went to the Clean Air Task Force where he stayed until August. He may be the only one in the group to have worked for four of its member organizations.

Place testified before the House Environmental Resources and Energy Committee about the risks and opportunities of Carbon Capture and Storage in 2009 when he was a CMU research fellow. He said, “Balancing the economic value of fossil fuels with the environmental concerns associated with their use is a particularly difficult challenge. Geologic sequestration (GS) of captured CO₂, particularly in deep saline formations is a primary pathway to reconcile these energy demands and environmental concerns.”^{lxxiii}

The Committee was hearing testimony on HB80, an attempt by Rep. Greg Vitali to amend the Alternative Energy Portfolio Standards Act with provisions that would make the state a climate leader “by dramatically increasing the commonwealth’s use of renewable energy and by establishing a cutting-edge carbon capture and storage network.”^{lxxiv} The bill ultimately died in committee, but had the support of every Democrat who voted in the one roll call vote

MEMBERS AS OF 9/9	Natural Resources Defense Council
Air Products and Chemicals, Inc.	OsoMono Ltd.
Allegheny Conference on Community Development	PA Chamber of Business and Industry
Allegheny County Allegheny-Fayette Central Labor Council	PA Department of Community and Economic Development
Appalachian Energy Future	PA Department of Conservation and Natural Resources
Battelle	PA Department of Environmental Protection
Calpine Corporation	PDC Machines, PECO Energy Company
Carnegie Mellon University	Pennsylvania State University
Center for Climate and Energy Solutions (C2ES)	Pennsylvania Environmental Council
Clean Air Task Force	Philadelphia Chamber of Commerce
CNX Resources Corporation	Philadelphia Gas Works
CONSOL Energy	Piasecki Aircraft Corporation
Constellation Energy	Pittsburgh Works Together
CS Energy	Andrew Place
Delaware County Commerce Center	RAND Corporation
Energy Innovation Center Institute	Shell
Energy Transfer	Southeastern Pennsylvania Transportation Authority
Epcot Crenshaw Corporation	Southwestern Pennsylvania Commission
EQT	Sustainable Pittsburgh
FirstEnergy Corporation	Team Pennsylvania Foundation
Great Plains Institute	TRC Companies, Inc.
IN-2-Market, Inc.	
International Brotherhood of Boilermakers	

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it received.^{lxxv}

Twenty-two years later, Place testified before the House Democratic Policy Committee on behalf of the Clean Air Task Force, this time on CCS and Hydrogen. “If enacted, a federal law supporting clean hydrogen hubs could provide the funding needed to kick-start hydrogen in Pennsylvania and enable us to maintain our energy leadership while supporting significant carbon dioxide reductions at the same time. The Pittsburgh area and the Delaware River port complex area would be obvious candidates for hydrogen hub development. Some exploratory work is already underway, including a recent high profile MOU between U.S. Steel and the Norwegian firm Equinor that would include both clean hydrogen and CCS,” he told the committee.^{lxxvi}

*GCEAF co-host **University of Pittsburgh** was among the members when the Collaborative was first announced in July, but has since been removed.

- International Brotherhood of Electrical Workers
- KeyState Energy
- Lehigh University
- Litz Energy Strategies
- Marcellus Shale Coalition
- Mitsubishi Power
- NRG Energy, Inc.
- U.S. Representative Conor Lamb
- U.S. Representative Mike Doyle
- U.S. Senator Robert P. Casey, Jr.
- US Steel
- Vicinity Energy
- Washington & Jefferson College Center for Energy Policy & Management
- Waste Management

*AUGUST 2022
APPALACHIAN
HYDROGEN HUB
ANNOUNCEMENT*

Last month, almost exactly a month before the start of the GCEAF, **Shell**, Equinor, and U.S. Steel announced plans to establish a blue hydrogen hub in Pennsylvania, Ohio, and West Virginia. Shell and Equinor plan to apply to **DOE** to receive \$2 billion to establish the hub.^{lxxvii}

- Shell**
- Equinor
- U.S. Steel

The story of regional and local hosts is best told by looking at key players. Brian Anderson is shown on the Federal Hosts map because he works for the DOE, but he wasn’t sent to Appalachia to work. He was born and raised there, so we begin the last section of the report with him.

Brian Anderson, Director, National Energy Technology Laboratory (NETL)

Anderson is the Director of the National Energy Technology Laboratory (NETL), a system of laboratories with locations in Pittsburgh, Pennsylvania where he is based, West Virginia, Texas, Alaska, and Oregon. NETL is a division of **DOE’s** Office of Fossil Energy and Carbon Management (FECM). Carbon Management was added to the name last year. According to the release when the change occurred, “FECM is using our extensive research

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capabilities to minimize the climate and environmental impacts of fossil energy and to advance carbon management – in many ways. Among them, point source carbon capture, carbon dioxide (CO₂) removal, CO₂ conversion into products, reliable CO₂ storage; blue hydrogen production; and critical mineral production from industrial and mining waste.”

Reporters caught up with Anderson after his talk at the natural gas industry’s Shale Insight conference last October. He told them his remarks “focused largely on carbon capture and sequestration (CCUS) and ‘looking at the technologies we need to develop as our energy system transforms over the coming decades to a lower carbon energy system.”^{lxxviii}

In November 2021, NETL announced an Appalachian Hydrogen Infrastructure study to “evaluate how the region’s current natural gas transportation and storage infrastructure might be adapted for use with hydrogen. We are also looking at what additional transportation and storage facilities might be needed to successfully revitalize these communities through a transition to a hydrogen economy.”^{lxxix} It was the same month the Bipartisan Infrastructure Investment and Jobs Act passed, providing \$9.5 billion hydrogen projects, including the establishment of hydrogen hubs, and \$10 billion for carbon capture, transportation, and storage programs.^{lxxx}

In January, NETL posted a statement describing its support of the development of hydrogen infrastructure that opens, “NETL’s Strategic Systems Analysis & Engineering (SSAE) researchers and analysts are pursuing an all-hands-on-deck effort to realize a clean energy future by harnessing the nation’s fossil energy resources to produce hydrogen sustainably through the use of commercial and advanced hydrogen production and carbon dioxide capture technologies.”^{lxxxi} NETL’s Carbon Transport & Storage page provides links to a list of its accomplishments, newsletter, proceedings, and an interactive map of the projects it is supporting.^{lxxxii}

For Anderson, the hydrogen hub is the third hub prospect since he joined NETL less than four years ago. In fact, he was a key player in the push for an Appalachian storage hub before joining NETL. A couple years and one cracker plant deal later, the plan morphed into the creation of a petrochemical hub. “Pennsylvania’s **Governor Tom Wolf**, a Democrat, has hailed Shell’s ethane cracker as the ‘biggest private-sector investment in Pennsylvania since World War II’ and touted the prospect of a transformation of western Pennsylvania as a fracking-driven energy ‘hub,’ with the cracker just the first in a series of petrochemical projects.”^{lxxxiii}

Anderson went to NETL in 2018 after founding and directing West Virginia University’s (WVU) Energy Institute.^{lxxxiv} For several years, the University had collaborated with China’s Shenhua on joint research on direct coal liquefaction technology. Eventually, China’s interests turned to natural gas.

According to *Metro News*, “In 2016, WVU and Shenhua signed a partnership agreement to establish West Virginia as the priority area for Shenhua Group’s investment into U.S. markets including natural gas power plant development and shale gas development. ‘Steve Hedrick and Brian Anderson were the go-to people on this project. They know more about this project than anybody... They’re the people who went to the energy department. They’re the people that talked to them,’ Delegate [John] Kelly said. ‘They started it. They started it.’”^{lxxxv}

Steve Hedrick was Brian Anderson’s partner in a venture called the Appalachia Development Group (ADG). For years, Hedrick, CEO and Chairman of MATRIC, a petrochemical research firm, had been envisioning a natural gas storage hub. He and Anderson formed ADG in 2017, the same year Shenhua announced plans to invest nearly \$84 billion in West Virginia’s natural gas resources, and the same year Hedrick and Anderson applied for a \$1.9 billion loan from DOE to develop the Appalachia Storage & Trading Hub.^{lxxxvi} The loan application states,

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“Appalachia Development Group is a vehicle established to deploy the Appalachian Storage and Trading Hub through principal leadership, investment attraction, and industrial growth.”^{lxxxvii}

Around the same time, the WVU-based Appalachian Oil and Natural Gas Research Consortium published *A Geologic Study to Determine the Potential to Create an Appalachian Storage Hub for Natural Gas Liquids*, the result of a year-long study of potential natural gas liquids (NGL) storage locations led by Kristin Carter of the Pennsylvania Geological Survey, part of the Department of Conservation and Natural Resources, and Douglas Patchen of the WVU Research Corporation. Other research partners included the West Virginia Geological and Economic Survey and the Ohio Geological Survey.^{lxxxviii} The study, referred to as “the latest effort of the Tri-State Shale Coalition,” was funded by the **Claude Worthington Benedum Foundation**.^{lxxxix} The Tri-State Shale Coalition was the group that brought about the partnership formed by the governments of Pennsylvania, West Virginia, and Ohio in 2015.

In June of 2018, **Anderson** announced that China was cancelling an appearance at the Northeast U.S. Petrochemical Construction Conference in Pittsburgh where they’d planned to discuss some of the projects they would develop via a 20-year Memorandum of Understanding with West Virginia.^{xc} The deal was on hold, according to the Chinese government. In November, Anderson started his new job directing NETL.

Shortly thereafter, DOE published “Report to Congress: Ethane Storage and Distribution Hub in the United States,”^{xcii} a study that had been mandated in the Energy and Water Development Appropriations Bill of 2017. The report expressed support for an Appalachian storage hub and mentioned the Appalachian Development Group. Anderson left the group when he took the job at NETL, but Hedrick kept it going. Shortly before Anderson’s departure, Parsons Corp signed on as a partner in \$3.4 billion deal struck with ADG.^{xcii}

Congress called for additional studies, but the necessary legislation mandating it never passed despite lobbying support from **Shell** and the American Chemistry Council.^{xciii} Steve Hedrick still lists himself as CEO and Chairman of the Appalachian Development Group, but the company appears to be inactive.^{xciv}

Last year, Biden appointed Anderson to serve as executive director of the White House Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization. It should come as no surprise that he believes carbon capture is part of the solution.^{xcv}

Allegheny Conference on Community Development

The fossil fuel industry’s role in Pennsylvania’s history cannot be overstated. The House chamber in Harrisburg is decorated with stained glass pieces designed by William B. Van Ingen, including one called Natural Gas (1906).



Edwin Austin Abbey’s lunette, *The Spirit of Light* (1909), in the Capitol Rotunda, pays tribute to the oil and gas industry.^{xcvi} Pennsylvania is an energy state and many energy ‘firsts’ occurred in the west.

Visitors to Pittsburgh who have taken in the view of the city from the overlook on Mount



Washington are standing on what was once called Coal Hill where the state’s first bituminous coal mining began around 1760.^{xcvii} A short trip east on the turnpike leads to Murrysville in Westmoreland County, the site of the first commercial gas well in the world discovered by the Haymaker brothers in 1878.^{xcviii} Just 19 years earlier, Edwin Drake drilled the first oil well in Titusville, around two hours north of Pittsburgh.

THE DIRTY ENERGY TRUTH BEHIND THE GLOBAL CLEAN ENERGY ACTION FORUM

By the 1930s, Pittsburgh was feeling the effects of becoming a heavily industrialized city. Air and water pollution were among the impacts that limited the city's ability to grow its population and appeal to new businesses. A regional planning association led by Richard King Mellon, Carnegie Institute of Technology President Robert Doherty, and other community leaders established a postwar planning committee in 1944 to address the issues the city faced. They called it the Allegheny Conference on Community Development.^{xcix}

During its first few years, the ACCD was a civic organization run by community leaders, but within a few years of its establishment, corporate CEOs became executive committee members. A half a century later, the ACCD's power expanded tremendously in first few years of the 21st century when the Greater Pittsburgh Chamber of Commerce, the Pennsylvania Economy League of Greater Pittsburgh, the Pittsburgh Regional Alliance (PRA), and ACCD became affiliates under the control of an Allegheny Conference leadership team.

The ACCD credits the PRA with helping to persuade **Shell** to build its ethylene cracker plant in Beaver County. In 2012, the PRA's community outreach efforts to assist Shell included organizing an educational tour of the company's Geismar, Louisiana facility for state and local officials.^c

By the start of the natural gas boom, the ACCD's reach extended to 32 counties in four states. In 2009, Ken Zapinski, ACCD's Senior Vice President for Energy and Infrastructure who brokered the deal to create the Tri-State Shale Coalition, partnered with Innovation Works to create the Energy Alliance of Greater Pittsburgh.^{ci} Innovation Works is "the Ben Franklin Technology Partner of Southwestern PA and is supported by the Department of Community and Economic Development."^{cii}

The chart below shows the board and committee members of the ACCD and its affiliates.

2022 Allegheny Conference Leadership
Laura Shapira Karet, Chair, Allegheny Conference Chair and CEO, Giant Eagle, Inc.
Bill Demchak, Chair, Pittsburgh Regional Alliance and Immediate Past Chair, Allegheny Conference Chairman, President and CEO, The PNC Financial Services Group, Inc.
Leroy Ball, Treasurer, Allegheny Conference and Chair, Audit & Finance Committee President and CEO, Koppers Inc.
James H. Rock, Secretary, Allegheny Conference CEO, Seegrid Corporation
David Holmberg, Vice Chair, Allegheny Conference and Chair, Personnel & Compensation Committee President and CEO, Highmark Health
Bill Strickland, Co-Chair, PA Economy League of Greater Pittsburgh and Strategy Chair, Racial Equity Founder and Executive Chairman, Manchester Bidwell Corporation
Bryan Salesky, Chair, Greater Pittsburgh Chamber of Commerce Founder and CEO, Argo AI
Rebekah Byers Kcehowski, Co-Chair, PA Economy League of Greater Pittsburgh Partner-in-Charge, Jones Day Pittsburgh
Eric Boughner, Strategy Chair, Talent Chairman BNY Mellon PA and Global Head of Relationship Management & Business Development, BNY Mellon
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			<p>Greg Flisram, Urban Redevelopment Authority of Pittsburgh</p> <p>Jason Greiss, InnovatePGH</p> <p>Tom Link, Urban Redevelopment Authority of Pittsburgh</p> <p>Jennifer Liptak, Allegheny County</p> <p>Sean C. Luther, InnovatePGH</p> <p>Susheela Nemani-Stanger, Allegheny County</p> <p>Cynthia Sweet, University of Pittsburgh</p> <p>Dora Walmsley, Allegheny County Economic Development</p>
ALLEGHENY CONFERENCE ENERGY TASK FORCE			
<p>TEAM LEADER Bryan Salesky, ArgoAI</p> <p>CO-CHAIRS William S. Demchak, The PNC Financial Services Group, Inc.</p> <p>Hilary Mercer, Shell Chemicals</p> <p>MEMBERS Brian Brickhouse, Eaton</p> <p>Pamela Cowan, Westinghouse Electric Company</p>	<p>Richard Fruehauf, United States Steel Corporation</p> <p>Patrick Gallagher, University of Pittsburgh</p> <p>Kevin Garber, Babst, Calland, Clements and Zomnir, P.C.</p> <p>Eric Gebhardt, Wabtec Corporation</p> <p>William (Pat) Getty, In-2-Market</p> <p>Brian Heery, Mitsubishi Electric Power Products, Inc.</p> <p>Mike Huwar, Peoples Natural Gas</p>	<p>Mark Kempic, Columbia Gas</p> <p>Sean Langan, PPG</p> <p>Masashiro Ogiso, Oriden</p> <p>Brenda Petrilena, United States Steel Corporation</p> <p>Carol Jackson, HarbisonWalker International</p> <p>Haakan Jonsson, Covestro LLC</p> <p>Patrick Kelly, FirstEnergy Corporation</p>	<p>David Roger, Hillman Family Foundations</p> <p>Venkee Sharma, Aquatech International Corporation</p> <p>Anna J. Siefken, Carnegie Mellon University</p> <p>Charles Stinner, ATI</p> <p>Andrew Tubbs, Columbia Gas</p> <p>Kevin Walker, Duquesne Light Company</p> <p>Joseph Williams, Jr., Eaton</p>

Such a massive consolidation of economic and civic forces in the greater Pittsburgh area has created a vast network that accounts for many of the connections among the GCEAF hosts ranging from those who *are* the fossil fuel industry to those who would otherwise be far removed from it. ACCD was also central to the formation of the Tri-State Shale Coalition. Although ACCD is not on the board of **Wolf's** Team Pennsylvania Foundation, several of ACCD's board members sit also serve on its board, including **Farnam Jahanian, CMU's** president and **Hilary Mercer** of **Shell**. Another prominent figure who has played multiple roles at ACCD is **William Demchak**, CEO of **PNC Financial Services**.

Demchak co-chaired ACCD's Energy Task Force with **Shell's Hilary Mercer**. He's chair of the Pittsburgh Regional Alliance and past chair of the Allegheny Conference. Since COP 21, PNC has invested more \$38 billion in fossil fuel companies. Demchak went to PNC from J. P. Morgan where he was dubbed the "Prince of Darkness" for the technique of bundling credit-default swaps he devised that contributed to the financial crisis in 2007 – 2008.

Morgan O'Brien

Morgan O'Brien seems to be everywhere. He's not one of GCEAF's hosts, but the company he once led is **Duquesne Light**, as we noted earlier, was a member of the Global Climate Coalition for at least four years, serving on the board in 1993 and 1994. The Edison Electric Institute (EEI) and the National Association of Manufacturers (NAM) founded the GCC to stall action on climate change. GCEAF hosts Duquesne Light and **Jones Day** are members of EEI.

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EI is a member of the Consumer Energy Alliance and has collaborated with it on a number of projects - campaigns promoting oil and gas pipelines, a successful campaign to kill rooftop solar, campaigns to counter concerns about fracking, campaigns opposing net metering (collaborating also with the American Legislative Exchange Council), and campaigns to streamline permitting on public lands.

"The Edison Electric Institute has also hired Edelman, one of the world's largest public relations companies. Edelman was in the news last year for their ambivalent stance on representing companies that deny climate change, and for having strategy documents leaked to the press regarding how they would help TransCanada Corporation run a 'perpetual campaign' to build the Energy East Pipeline – the alternative project to the Keystone XL pipeline."^{ciii}

We noted earlier in this report that Edelman is doing PR for GCEAF.

O'Brien spent 20 years at Duquesne, making his way to the executive suite during the same years that his company was involved in the Global Climate Coalition, although it's not clear that he was aware of it.

Carbon capture was being discussed with increasing frequency by 2000 in the context of clean coal as front groups like EEI shifted their messaging away from climate denial.^{civ} By that time, O'Brien was leading Duquesne Light. In 2007, O'Brien told the *Tribune Review* that "in order for Pennsylvania to have a stable and competitively priced power supply, the state cannot solely rely on wind or solar technologies -- it has to also invest in clean-coal technology."^{cv}

O'Brien eventually moved on to lead Peoples Gas. Peoples Gas is part of Essential Utilities, the company formed after Aqua America's acquisition of the company.^{cvi} O'Brien left before the merger with Aqua America to form Essential Utilities in 2020.^{cvi} Former House Speaker Mike Turzai became General Counsel for Peoples when he left the legislature a few months later.^{cvi}

Last year, O'Brien brought together representatives from the energy industry, academia, labor, and government to discuss the creation of a Pennsylvania Center for Excellence for Decarbonizing Manufacturing Operations which "will be built around an existing IN-2-Market research collaborative between university research and manufacturing." O'Brien said "one possibility is creating a prototype decarbonized industrial plant and research institute around it in the Mon Valley. "There, research and development would happen, on the hydrogen/energy side and the manufacturing side," O'Brien continued. He was referring to the Appalachian Hub Alliance that was forming under the leadership of In-2-Market's Michael Docherty.

The meeting's participants included U.S. Steel Corp. President and CEO David Burritt, EQT Corp. President Toby Rice, **University of Pittsburgh** Chancellor Patrick Gallagher, **Carnegie Mellon University** Vice President for Research J. Michael McQuade, Pennsylvania Department of Community and Economic Development Secretary Dennis Davin, representing the **Wolf** administration, Allegheny County Executive **Rich Fitzgerald** as well as **The Hillman Foundation**, the **R.K. Mellon Foundation**, The Heinz Endowments, United Steelworkers, **AFL-CIO**, the building trades, U.S. Representative Mike Doyle, and U.S. Representative Conor Lamb, among others.^{cix}

In February of this year, EQT, Equinor, GE Gas Power, Marathon Petroleum and its affiliate MPLX, Mitsubishi Power, **Shell Polymers**, and U.S. Steel announced the formation of the Appalachia Hub Alliance.^{cx} Their website is called Appalachian Energy Future (AEF).^{cx} (They have since adopted that name for the group, as well.) Although he was not named that in the article, IN-2-Market's Michael Docherty is the Executive Director of AEF. Williams and Southwestern Energy joined AEF in August.^{cxii}

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In April, Peoples Gas, hosted the *H2 Summit: Fueling the Future* with the Energy Innovation Center Institute and Bedford Funds, a private equity group that works as one of EICI's partner organizations to fund organizations, including the Critical Infrastructure Workforce Academy and IN-2-Market, whose Executive Director Docherty was among the speakers.^{cxiii} The conference's webpage says, "This summit will help the region take necessary steps to assist the Western Pennsylvania Tri-State region (PA, OH, WV) secure one of these Hydrogen Hubs."

At 2017's Shale Insight conference in Pittsburgh, O'Brien, who was still at Peoples, and Chevron President Stacey Olson released a McKinsey & Co. report they'd commissioned called *Forge the Future: Pennsylvania's Path to an Advanced, Energy-Enabled Economy*.^{cxiv} The pro-fossil fuel report became an initiative whose leaders included Chevron, Peoples Gas, **The Allegheny Conference on Community Development**, the Chamber of Commerce of Greater Philadelphia, the Pennsylvania Chamber of Business and Industry, and the Pennsylvania Manufacturers' Association.^{cxv} They produced a report called *Ideas for Action*.^{cxvi} In 2019, O'Brien noted that Turzai had included things from the action plan in the package of bills called Energize PA.^{cxvii}

O'Brien and Olson said when they announced the initiative, "The first phase of this effort has been focused on a comprehensive analysis to get a clear picture of the size of the economic opportunity afforded our commonwealth by its vast natural gas resources, and the priorities on which we should focus to reach our potential."^{cxviii}

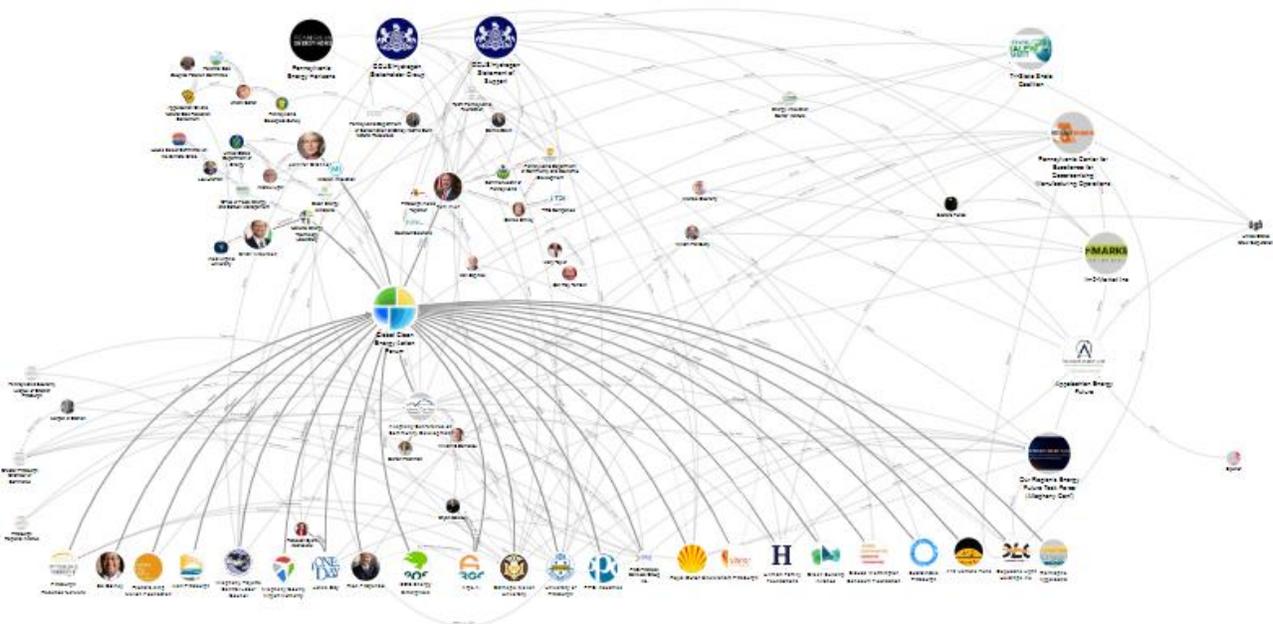
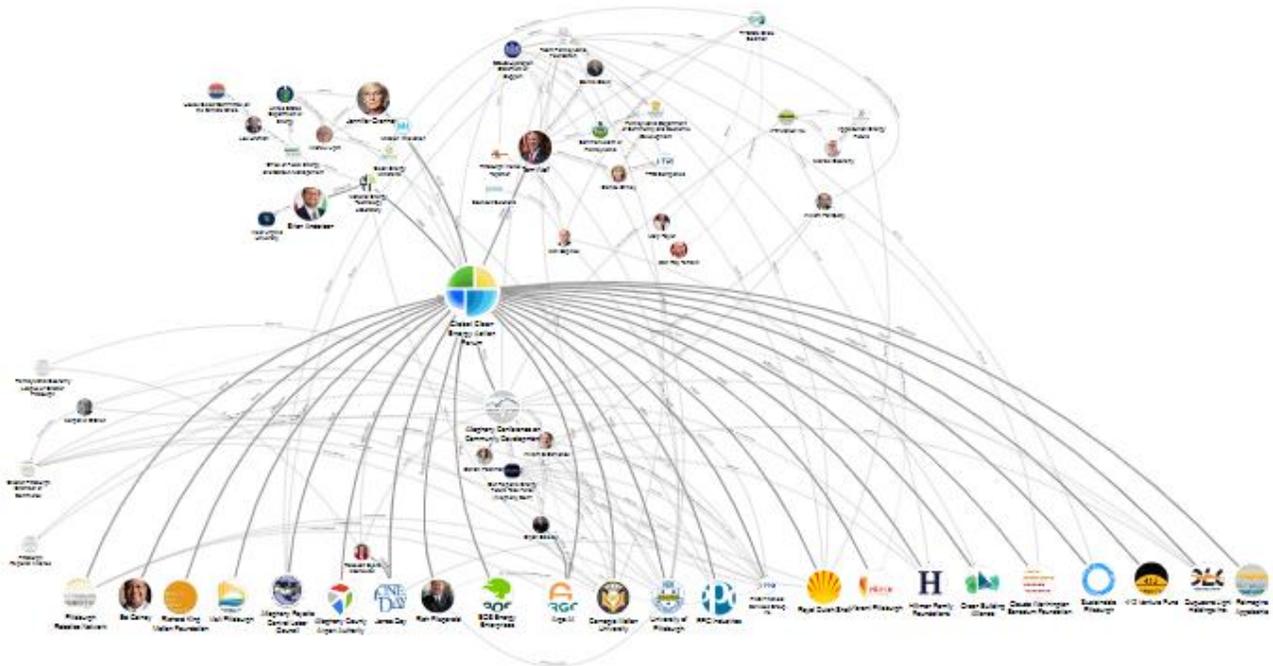
Forge the Future said nothing about climate change, something Rep. Greg Vitali pointed out when the House Environmental Resources and Energy Committee met to discuss the report in 2019.^{cxix} It was during the debate that ensued that Rep. Daryl Metcalfe, a climate denier who chairs the committee, made his oft-quoted statement that he "enjoys his vegetables and plants need CO₂."^{cxx} He added, "I want to make sure there is plenty of CO₂ out there."

Just three years later, Peoples had discovered climate change, sort of. The H2 Summit's page on the company's site opens, "The global energy industry is experiencing a momentous transformation driven by innovations in energy technologies and rapidly shifting social preference for sustainable, resilient and climate friendly power. This transformation depends on the continued use of clean-burning natural gas as both an ongoing foundational low-carbon transition fuel and, eventually, as a feedstock and power source for zero-carbon hydrogen-based energy systems."^{cxxi}

Also in April, one of Peoples' *Forge the Future* partner organizations issued its own report that also acknowledged climate change while pushing false solutions. The **Allegheny Conference on Community Development's** Energy Task Force published *Our Region's Energy Future: A Strategy for Accelerating Decarbonization, Investment, and Inclusive Growth in the Pittsburgh Region*. The report identified "Six Strategic Levers", among which are "Deploy Carbon Capture" and "Deploy Hydrogen", adding "Develop H₂ supply and utilize H₂ to decarbonize hard-to-abate technologies," a.k.a. blue hydrogen from natural gas.^{cxxii}

Executive Director **Stefani Pashman** told *NEXTpittsburgh* that the task force had rejected both doing nothing and taking its cues from Glasgow. "We concluded that our middle path is both necessary in order to use greenhouse gas emissions, but it's also doable if we tackle two critical areas: decarbonization of industrial production, and also decarbonization of power generation."

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Two versions of the GCEAF Host map. The [top map](#) shows federal and state hosts in the upper left and right, respectively, and all of the regional/local hosts at the below the GCEAF logo. The [bottom map](#) shows the connections added for the key committees, meetings, documents, agreements, and boards mentioned in this brief. Both maps are interactive on LittleSis.

CONCLUSION

Richard DiClaudio, CEO of Bedford Funds and the Energy Innovation Center Institute who funds and sits on the board of IN-2-Market, testified to the PA House Environmental Resource and Energy Committee on September

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14 that the hydrogen energy market is predicted to grow \$1-\$2.5 trillion annually. William Rowland, who manages government and regulatory affairs at Peoples Gas called a hydrogen hub a “once-in-a-lifetime” opportunity for a region that has the chance to “be at the front of the line.” DiClaudio and Rowland told the committee that “regulation and incentives would jumpstart the hydrogen initiative.”^{cxxiii} Incentives. Remember Naomi Oreskes? They’re planning to build a home with materials that don’t exist yet. And they’re already getting billions of dollars to do it, but they want more.

DOE/NETL’s map of Carbon Capture projects^{cxxiv} is a reminder that the pursuit of false solutions will take over entire states, much as fracking has, only the next generation of fossil fuel projects won’t be as dependent on the location of the fossil fuels. The first CCS project proposed in Pennsylvania is the proposed Nacero gas-to-gasoline refinery in Luzerne County.^{cxxv} Energy Transfer, the company facing 48 criminal charges for its lawless construction of the Mariner East pipeline, is talking about a carbon capture project in Marcus Hook, Delaware County.^{cxxvi}



The Global Clean Energy Action Forum will be little more than a snake oil trade show. If the attention given to provable, scalable solutions presented at GCEAF is proportional to the \$20 billion for hydrogen and carbon capture projects vs. \$480 million for all renewables combined in the IJJA, as it likely will be if the schedule of events is any indication, any showcased solutions we need so urgently will do little more than give cover to thinly-veiled fossil fuel projects.

The DOE Office of Energy Efficiency and Renewable Energy’s webpage has links to lots of educational materials like Increase Your H2IQ factsheets and bingo cards with a fun font.^{cxxvii} The job right now is to build public acceptance. The purveyors of snake oil won’t be in Pittsburgh to sell a hydrogen hub to the DOE. They’re on the same team.

The target of their sales pitch is you.

HYDROGEN BINGO

ANSWERS

- A. Knows the atomic number of hydrogen
- B. Knows the percentage of U.S. energy consumption supplied by renewables
- C. Knows the process that produces energy in the sun's core
- D. Can define energy carrier
- E. Knows what a fuel cell is
- F. Can define distributed generation
- G. Knows a process that separates water into hydrogen and oxygen
- H. Knows the number of neutrons in a hydrogen atom
- I. Knows in what form energy from the sun travels to the Earth
- J. Can name four renewable energy sources
- K. Knows the percentage of U.S. energy consumption supplied by fossil fuels
- L. Knows the top energy carrier used in the U.S.
- M. Knows the U.S. percentage of world population
- N. Can name four nonrenewable energy sources
- O. Knows the U.S. percentage of world energy consumption
- P. Can name two ways hydrogen is used today

A the atomic number for hydrogen is 1	B renewables supply a little over 9 percent of U.S. energy consumption	C FUSION of hydrogen into helium produces energy in the sun's core	D a system or substance that moves energy from one place to another
E a device that uses chemical reaction to produce electricity - a battery	F distributed generation is electricity produced near the site of the consumer	G ELECTROLYSIS separates water into hydrogen and oxygen	H no neutrons in a simple hydrogen atom (deuterium and tritium isotopes have neutrons)
I energy from the sun travels to Earth in the form of radiant energy	J renewables: solar, wind, hydropower, biomass, geothermal	K fossil fuels supply about 82 percent of total U.S. consumption	L electricity is the top energy carrier in the U.S.
M the U.S. contains just under 5 percent of total world population	N nonrenewables: petroleum, natural gas, propane, coal, uranium	O the U.S. accounts for under 20 (18.5) percent of total world energy consumption	P used by industry for refining, treating metals, and processing foods; to fuel small hydrogen fuel cells to produce electricity; hydrogen fueled vehicles



Shell's ball full of hot air.^{cxviii}

ENDNOTES

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^{vi} <https://www.h2bulletin.com/knowledge/hydrogen-colours-codes/>

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^{viii} <https://gceaf.org/host-committee/>

^{ix} <https://www.cleanenergyministerial.org/who-we-are/>

The Clean Energy Ministerial (CEM) was created to “bring together a community of the world’s largest and leading countries, companies and international experts to achieve one mission – accelerate clean energy transitions.”

^x <https://obamawhitehouse.archives.gov/blog/2015/11/29/announcing-mission-innovation>

Mission Innovation (MI) is “a global initiative catalysing a decade of action and investment in research, development and demonstration to make clean energy affordable, attractive and accessible for all. This will accelerate progress towards the Paris Agreement goals and pathways to net zero.”

MI’s site explains the difference between the two. “While MI focuses on breakthrough R&D for the new technologies of tomorrow, the Clean Energy Ministerial (CEM) focuses on scaling the deployment of technologies and solutions that are available today.”

^{xi} <https://www.rff.org/publications/issue-briefs/hydrogen-hubs-is-there-a-recipe-for-success/>

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^{xiii} <https://cleancreatives.org/edelman>

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